

Application No.: 09/735,574

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**REMARKS/ARGUMENTS**

Applicants have amended the specification on page 6, line 15 and assert that no new matter is presented since the information is in the drawings.

Applicants have amended the specification on page 26, line 15 and assert that no new matter is presented since it is apparent to one skilled in the art that this is a typographical error.

Applicants have amended the specification on several pages to correct typographical errors and assert that no new material is presented.

***Claim Rejections under 35 U.S.C. § 101 should be Withdrawn***

Claims 1-6, 14-19, and 27-32 are rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Applicants respectfully disagree with the Office Action. In contrast, Claims 1, 14, and 27 specifically require the providing of a plurality of intensities from the samples of the nucleic acid probe arrays. The intensity values represent physical objects external to the computer system carrying them out, and as such constitute statutory process subject matter under the safe harbor for manipulation of data representing physical objects or activities described in MPEP § 2106, Part IV, subpart B.

Further, case law states that mathematical algorithms which are reduced to some type of practical application with a useful concrete result are patentable. The Federal Circuit held that "the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' – a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." (*State St.*

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*Bank & Trust Co. v. Signature Fin. Group*, 149 F.3d 1368, 1373 (Fed. Cir. 1998)). In the instant Claims, the data represents the probe hybridization intensities and the "useful, concrete and tangible result" is the normalization factor which is used to adjust signals from probe arrays to compensate for array to array variations or variations due to other factors.

The Office Action states that "the manipulation of data or conversion of data, in this case probe intensities is the claimed subject matter without any physical transformation outside of the computer." In *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999), the Federal Circuit held that "the notion of 'physical transformation' can be misunderstood. In the first place, it is not an invariable requirement, but merely one example of how a mathematical algorithm may bring about a useful application." The instant Claims do bring about a useful application, the calculation of a normalization factor.

Applicants respectfully submit that in view of the above remarks, the rejection of Claims 1-6, 14-19, and 27-32 under 35 U.S.C. § 101 should be withdrawn.

***Claim Rejections under 35 U.S.C. § 103(a) should be Withdrawn***

Claims 1-6, 14-19, and 27-32 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Chin et al. (P/N 6,470,277); taken in view of the legal decision of *In re Gulack*, 703 F.2d 1381 (Fed. Cir. 1983). Applicants respectfully disagree.

The Examiner notes that Chin et al. describes methods of gene identification and mentions a normalization factor. Chin et al. does not suggest or teach any of the process limitations in the Claims. However, the Office Action does not consider the process limitations as claim elements because they are allegedly nonfunctional. *In re Gulack* held that nonfunctional descriptive material in a claim does not distinguish the prior art in terms of

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patentability. As was held in *State Street*, a machine program that produces a "useful, concrete, and tangible result" is statutory subject matter. Hence, the process limitations of the instant claims are functional. In addition, *In re Gulack* addresses a product claim, whereas the instant Claims are for a process.

Applicants respectfully submit that in view of the above remarks, the rejection of Claims 1-6, 14-19, and 27-32 under 35 U.S.C. § 103(a) should be withdrawn.

***Objections to the Claims are Obviated***

The specification has been amended to address the Examiner's objections and typographical errors. Specifically, embedded hyperlinks and browser-executable code on page 11 has been deleted as have attorney docket numbers on pages 2, 14, and 21. No new matter is presented by the amendments.

**CONCLUSION**

For these reasons, Applicants believe all pending claims are now in condition for allowance. If the Examiner has any questions pertaining to this application or feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 731-5000.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account 01-0431.

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Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,



Wei Zhou

Reg. No. 44,419

Dated: 9/27/04

Customer No.: 22886  
Legal Department  
Affymetrix, Inc.  
3380 Central Expressway  
Santa Clara, CA 95051  
Tel: 408/731-5000  
Fax: 408/731-5392

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